

FEB 3 1999

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Amendment of Section 2.106 of the
Commission's Rules to Allocate Spectrum at
2 GHz for Use by the Mobile-Satellite Service

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) ET Docket No. 95-18
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COMMENTS OF ICO SERVICES LIMITED

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February 3, 1999

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COMMENTS OF ICO SERVICES LIMITED

ICO Services Limited ("ICO Services")¹ submits these comments in response to the third notice of proposed rulemaking released on November 25, 1998 in the above referenced proceeding ("Third NPRM").²

SUMMARY AND INTRODUCTION

ICO Services is one of the applicants seeking authorization to offer mobile satellite service ("MSS") in the United States at 2 GHz. ICO expects to launch commercial service in 2000. Accordingly, the issues raised in the Third NPRM --

¹ ICO Services Limited, a company established under the laws of England and Wales, is a wholly owned subsidiary of ICO Global Communications (Holdings) Limited, which is the ultimate parent of a wholly owned group of companies (referred to herein collectively as "ICO") that is developing a satellite system for the provision of global MSS.

² *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order, ET Docket No. 95-18 (Nov. 25, 1998) ("MO&O" and "Third NPRM").

especially those relating to relocation of incumbent 2 GHz operations -- are of critical importance to ICO.

ICO applauds the Commission's proposal in the Third NPRM to allocate 85 MHz of spectrum at 2025-2110 MHz for Broadcast Auxiliary Service ("BAS").³ As described more fully below, ICO has for some time argued to the Commission that present and equivalent future BAS needs at 2 GHz can be fully accommodated in 85 MHz of spectrum. ICO therefore urges the Commission to adopt its proposed BAS allocation.

The Commission's overriding goal in transitioning BAS and Fixed Service ("FS") incumbents out of the 2 GHz spectrum that has been allocated for MSS should be to ensure that MSS providers, such as ICO, that are prepared to begin offering service in the near term, will not be delayed in doing so by the Commission's relocation policies. ICO has argued that it is inappropriate as a policy matter for the Commission to impose upon MSS providers the obligation to pay the costs of relocating 2 GHz BAS and FS incumbents. ICO continues to urge the Commission to reconsider its decision to impose relocation costs on MSS providers.⁴

ICO and ICO USA Service Group ("IUSG")⁵ have proposed a graduated transition plan that ICO believes represents the most efficient and effective way to ensure

³ ICO uses the term "BAS" herein to also include Cable Television Relay Service and Local Television Transmission Service.

⁴ See Petition for Further Limited Reconsideration of ICO Services Limited (Jan. 19, 1999).

⁵ IUSG consists of British Telecommunications PLC ("BT"), Hughes Telecommunications and Space Company ("Hughes"), Telecomunicaciones de Mexico ("Telecom Mexico") and TRW Inc. ("TRW").

that 2 GHz MSS providers are able to provide service in 2000 and to ensure timely, equitable transition of incumbent users of 2 GHz spectrum (the "Proposal"). Under the Proposal, a copy of which is attached as Appendix A, the Commission would allow MSS providers and incumbent operators to negotiate transition arrangements within an appropriate policy framework established by the Commission, which would include accommodations such as technical assistance, product development and operational constraints. Also under the Proposal, the Commission would adopt a sunset date of January 1, 2005, after which all remaining non-MSS incumbent users of the 2 GHz MSS spectrum would convert to secondary status.

In addition to ensuring that 2 GHz MSS providers are able to offer service in 2000, the Proposal serves the public interest because it reflects a sensitivity to the international implications of the Commission's approach to transitioning spectrum. ICO, as well as other parties, have urged the Commission to consider the international consequences to the global satellite industry of the regulatory policies it adopts for 2 GHz MSS.

Under the Proposal, MSS providers would not pay for spectrum access, whether by auctions, fees or direct relocation costs to any party. Although in the MO&O released simultaneously with the Third NPRM the Commission affirmed its earlier decision to apply the relocation compensation policies developed in the *Emerging Technologies* proceeding to the MSS allocation in 2 GHz, ICO continues firmly to oppose the application of those relocation policies to 2 GHz MSS providers, as noted above. In order to ensure a complete record, ICO nevertheless comments herein on some of the

Commission's specific proposals regarding relocation.⁶ ICO makes these comments without prejudice to its position opposing the application of the *Emerging Technologies* relocation policies to 2 GHz MSS providers.

The essence of ICO's position, in the event that the Commission imposes relocation costs on MSS providers, is as follows: *(1) so long as a 2 GHz MSS provider can share with a primary BAS or FS incumbent, there should be no requirement that that MSS provider pay (or reimburse another) to relocate that incumbent, and (2) an MSS provider should only be required to pay (or reimburse another) to relocate an incumbent from spectrum actually used by that MSS provider.* Only those MSS providers that cannot share should be burdened with the costs of relocating incumbent operators.

In adopting transition policies for 2 GHz MSS spectrum, the Commission should not adopt wholesale the relocation and cost sharing policies established in the *Emerging Technologies* and *Microwave Relocation Cost-Sharing* proceedings. As the Commission correctly has concluded, MSS providers that can share spectrum with existing terrestrial incumbents in either the MSS uplink or downlink spectrum should not be required to pay relocation costs. MSS providers that can share spectrum with existing terrestrial incumbents in the MSS downlink also should not be required to reimburse new service licensees for any amount of the costs associated with clearing the 2115-2150 MHz spectrum identified in the Balanced Budget Act of 1997 ("1997 Budget Act") that has

⁶ ICO addresses the Commission's 2 GHz relocation reimbursement policies that impose obligations upon 2 GHz providers to compensate only primary incumbents. No such obligations are imposed on 2 GHz MSS providers for incumbents with secondary status.

paired links in the 2165-2200 MHz band. In addition, the Commission should not adopt a ten-year sunset period in accordance with the *Emerging Technologies* sunset policy. Such a sunset period would not end, at best, until early 2009 and could delay entry by MSS systems ready to provide service as early as 2000. Instead, the Commission should adopt the January 1, 2005 sunset deadline discussed above.

In addition, to the extent that the Commission requires an MSS provider to pay relocation costs where sharing is not possible with relevant incumbent terrestrial systems, it should require such payment only for spectrum actually utilized by that MSS provider. To do otherwise would unfairly increase the relocation burden on MSS providers. The Commission also should require MSS providers to pay only the depreciated cost (*i.e.*, book value) of the incumbents' equipment, so as to avoid conferring a financial windfall on the incumbents.

Although ICO generally agrees that relocation costs -- if required to be paid -- should be shared among MSS providers using the same band that are unable to share with incumbent terrestrial operators, it urges the Commission not to adopt a ten-year sunset on cost sharing as it did in the *Microwave Relocation Cost-Sharing* proceeding. Given that many 2 GHz MSS applicants appear far from ready to provide service, it would not be fair for the Commission to expect those few entities that are ready to provide service near term to bear the risk that later entering MSS providers would not be obligated to reimburse the early entrants for relocation costs.

I. THE ICO AND IUSG PROPOSAL REPRESENTS THE MOST EFFICIENT AND EFFECTIVE WAY TO ENSURE COMMENCEMENT OF 2 GHZ MSS SERVICE IN 2000 AND THE TIMELY, EQUITABLE TRANSITION OF INCUMBENT USERS

As the Commission notes in the Third NPRM,⁷ in earlier *ex parte* filings with the Commission, ICO and IUSG recommended their Proposal with respect to the graduated transition of 2 GHz incumbents out of that spectrum. ICO believes that the Proposal, which is described below, represents the most efficient and effective way to ensure that 2 GHz MSS providers such as ICO can commence service in 2000, as well as the timely, equitable transition of incumbent operators. Moreover, as discussed more fully below, the Proposal demonstrates a sensitivity to the international implications of the Commission's approach to transitioning spectrum.

A. The Proposal

Under the Proposal, the Commission would allow MSS providers and 2 GHz terrestrial incumbent operators to negotiate transition arrangements within an appropriate policy framework established by the Commission, which would include accommodations such as technical assistance, product development support and operational constraints. In addition, under the Proposal the Commission would adopt a sunset date of January 1, 2005, after which all incumbent operations in the 2 GHz bands convert to

⁷ Third NPRM at ¶ 41.

secondary status and MSS systems may commence unconstrained operations in those bands. Prior to the sunset date, MSS providers in the 2 GHz bands would be required to avoid causing harmful interference to primary terrestrial systems in the 2 GHz bands.

Under the Proposal, the Commission also would freeze all applications for new licenses and for modifications of licenses filed after the March 14, 1997 release date of the Commission's first report and order and further notice of proposed rulemaking ("First R&O" and "FNPRM")⁸ and condition any new licenses or modifications on the licensee relocating out of the 2 GHz bands at the licensee's expense.⁹ In addition, the Commission would condition all license renewals for 2 GHz incumbents issued after the March 14, 1997 release date of the FNPRM on those licenses converting to secondary status as of January 1, 2000.

With respect to incumbent BAS operations in 2 GHz spectrum, under the Proposal the Commission would discontinue BAS use of BAS Channel 1 prior to the first MSS provider commencing operations in 2 GHz. The discontinuation would be subject to confirmation that sharing between BAS incumbents and MSS providers is not possible. Similarly, the Commission would discontinue BAS use of BAS Channel 2 at such time as MSS providers require additional 2 GHz spectrum, and in any event no later than January

⁸ *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, First Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 7388 (1997) ("First R&O" and "FNPRM").

⁹ ICO Services and IUSG collectively have asked the Commission to reconsider its failure in the First R&O to take such action with respect to BAS licenses in the 1990-2025 MHz band. See Emergency Petition for Further Limited Reconsideration of BT, Hughes, ICO Services, Telecom Mexico and TRW (Dec. 23, 1998).

1, 2005. Under the Proposal, in order to promote the efficient use of 2 GHz spectrum by BAS, the Commission would facilitate BAS electronic news gathering (“ENG”) conversion to digital as soon as possible, but in any event no later than May 1, 2002, when the Commission has required all commercial television stations to have constructed their digital television facilities.¹⁰

With respect to incumbent primary FS operations in 2 GHz spectrum, under the Proposal, the Commission would adopt ITU interference standards and interference assessment methods that would apply to MSS systems sharing with primary incumbent licensees in the 2 GHz spectrum until the sunset date.

B. The Proposal Ensures The Commencement Of 2 GHz MSS Service In 2000 And Efficient Use Of The Spectrum

By allowing for the graduated transition of both BAS and FS incumbents out of the 2 GHz bands, the Proposal ensures that any MSS applicant likely to commence service in 2000 -- including ICO -- may do so. Thus, the Proposal serves the public interest by ensuring that 2 GHz MSS services are available to consumers at the earliest possible date.

Under the Proposal, the Commission will have discontinued, to the extent required by MSS, BAS use of BAS Channel 1, thereby allowing ICO and others to begin

¹⁰ One of the Commission’s goals in requiring broadcasters to convert to the digital format was to promote efficient use of the spectrum. *See Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, Fifth Report and Order, 12 FCC Rcd 12809, 12811 (1997), *recon.*, Memorandum Opinion and Order on Reconsideration of the Fifth Report and Order, 13 FCC Rcd 6860 (1998).

operating in that cleared spectrum. ICO therefore could commence operations in 2000 without any delay that might result from continuing relocation negotiations.

Under the Proposal, at such time as ICO's (or other 2 GHz MSS providers') spectrum needs exceed the former BAS Channel 1 spectrum, the Commission would discontinue, to the extent required by MSS, BAS use of BAS Channel 2. This action would ensure the continued growth of 2 GHz MSS operations without delay. Thus, 2 GHz MSS systems, both non-geostationary and geostationary, would have access to a total of 35 MHz of uplink spectrum without any risk of regulatory delay.

C. The Proposal Demonstrates A Sensitivity To International Implications Regarding Relocation

The Proposal also promotes the public interest because it demonstrates a sensitivity to the international implications of the Commission's approach to transitioning spectrum. As a leader in encouraging and enabling advanced communications services, the Commission is emulated by many countries also seeking to encourage the development of new communications services. The Commission's regulatory approaches thus often become the model upon which other countries base their regulation. For this reason, ICO and others have urged the Commission to consider the international consequences to the global satellite industry of the regulatory policies it adopts for 2 GHz MSS.¹¹

¹¹ See Petition for Partial Reconsideration of the MSS Coalition at 34 and n.84 (May 20, 1997) ("Coalition Reconsideration Petition"); Letter from Clayton Mowry, Director, Satellite Industry Association, to William Caton, Acting Secretary, Federal Communications Commission, at 1 (July 2, 1997); *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Earth Stations in the 17.7-20.2 GHz Frequency* *Fn Cont'd*

For this reason, the Commission should adopt a transition approach -- such as the Proposal -- that avoids imposing relocation fees on MSS providers. To do otherwise could precipitate the adoption of relocation reimbursement or compensation policies internationally, thereby potentially hindering the ability of both U.S.-licensed and non U.S.-licensed MSS providers to provide global satellite service.

II. THE EMERGING TECHNOLOGIES/MICROWAVE RELOCATION COST-SHARING RULES ARE UNWORKABLE FOR 2 GHZ MSS LICENSEES

In the Third NPRM, the Commission raises a number of issues regarding the application of its *Emerging Technologies* policies to the relocation of both the BAS incumbents in the 1990-2025 MHz band and the FS incumbents in the 2110-2150 MHz and 2165-2200 MHz bands. As noted above, MSS providers should not be required to bear the costs of relocating the incumbent operators in the 2 GHz spectrum. In order to ensure that its views are part of the record, however, ICO nevertheless addresses herein some of the relocation issues raised by the Commission in the Third NPRM.

A. MSS Providers That Can Share Spectrum Should Not Be Required To Pay Relocation Costs

In its First R&O, the Commission correctly concluded that MSS providers are under no obligation to relocate FS incumbents with whom sharing is possible.¹² ICO

Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite Service Use, Comments of Teledesic LLC at 18 n.39 (Nov. 19, 1998) ("Teledesic 18 GHz Comments").

¹² First R&O, 12 FCC Rcd at 7406-07.

agrees that so long as a 2 GHz MSS provider can share with primary FS incumbents, there should be no requirement that that MSS provider pay (or reimburse another) to relocate those incumbents. Similarly, to the extent that an MSS provider can share spectrum with incumbent BAS operators, the MSS provider should not be required to relocate those BAS incumbents. Celsat has stated, for example, that it can operate in the 1990-2025 MHz and 2165-2200 MHz bands without causing harmful interference either to BAS or FS incumbents.¹³

In the Third NPRM, the Commission states that with respect to FS relocation in the 2165-2200 MHz bands, it proposes to use the same sunset period as established in the *Microwave Relocation Cost-Sharing* proceeding.¹⁴ Specifically under that sunset policy, ten years after the beginning of the voluntary negotiation period for the first new licensees, new licensees would no longer be obligated to pay the costs of relocating FS incumbents, and would be able to require the incumbents to cease operating or relocate at their own expense. The Commission should not adopt here the sunset policy established in the *Microwave Relocation Cost-Sharing* proceeding because under that policy, the sunset date for MSS providers in 2 GHz would be -- at the earliest -- some time in 2009. Such a long sunset period is unwarranted here given that both the FS and BAS incumbents in the MSS uplink and downlink bands have been on notice that they likely would be required to relocate since at least 1995, when the Commission issued its

¹³ See Coalition Reconsideration Petition at 4 n.8.

¹⁴ Third NPRM at ¶ 49.

original notice of proposed rulemaking in this proceeding.¹⁵ Arguably, the FS incumbents have been on notice of their eventual relocation since 1992, when the Commission imposed secondary status on new licenses in the 2165-2200 MHz band.¹⁶

As noted above, the Commission should adopt a sunset date of January 1, 2005. That date gives the 2 GHz incumbents at least a ten-year period from the date of notice before having to relocate at their own expense. It also ensures that MSS providers will have more certainty as to their ability to provide service at 2 GHz at an earlier date. Finally, the January 1, 2005 date ensures that 2 GHz new entrant MSS providers will not have to wait ten years before being able to compete on a level playing field from a cost standpoint with their 1.6/2.4 GHz MSS competitors.

B. An MSS Provider Should Pay Relocation Costs Only For Spectrum It Utilizes And Cannot Share

In the Third NPRM, the Commission asks a number of questions regarding the apportioning of relocation costs among MSS licensees.¹⁷ One of those questions is whether the Commission should require each MSS licensee to bear relocation costs in proportion to the amount of spectrum in the 1990-2025 MHz band for which it is

¹⁵ See *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, Notice of Proposed Rulemaking, 10 FCC Rcd 3230 (1995). A ten-year sunset period also is unwarranted here because much of the incumbent FS equipment is subject to a depreciation schedule of five years or less.

¹⁶ See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, Report and Order, 7 FCC Rcd 6886, 6891 (1992).

¹⁷ See Third NPRM at ¶ 42.

licensed.¹⁸ The answer is no. As an initial matter, an MSS provider should only be required to pay relocation costs if that operator (1) is licensed at 2 GHz; (2) is actually using 2 GHz spectrum; and (3) cannot share that spectrum with incumbent operators. Even then, an MSS provider should only pay to relocate incumbents from the spectrum actually used by the MSS provider; an operator should not be responsible for a proportion of the overall costs of relocating the entire 2 GHz spectrum. It simply makes no sense to burden MSS providers with the cost of relocating incumbent operators from spectrum that the MSS provider does not utilize or in which the MSS provider can share. Such a requirement would only serve to increase unnecessarily the financial hurdle faced by MSS providers seeking to offer service at 2 GHz.

The Commission also asks in the Third NPRM whether it should utilize a cost sharing formula similar to that adopted in the *Microwave Relocation Cost-Sharing* proceeding.¹⁹ Although ICO does not object to the utilization of a cost sharing plan generally, provided it applies only to MSS providers that actually use 2 GHz spectrum and that cannot share with incumbent operators, there is at least one aspect of the *Microwave Relocation Cost-Sharing* proceeding cost sharing formula that the Commission should not adopt. Specifically, the Commission should not adopt a ten-year sunset on any cost sharing plan.²⁰ Given the apparent lack of readiness of many of the 2

¹⁸ *Id.*

¹⁹ *Id.* (citing *Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation*, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8825 (1996) ("Microwave Order")).

²⁰ See *Microwave Order*, 11 FCC Rcd at 8863.

GHz MSS applicants' systems, as a practical matter ICO may be the only authorized MSS provider providing service at 2 GHz for a number of years. If this is indeed the case, then a ten-year sunset on a cost sharing plan could result in ICO paying full relocation costs without any reimbursement from later entering MSS providers. This possibility would unfairly punish ICO for being the earliest provider of 2 GHz MSS and, importantly, would create a significant market entry barrier for ICO.

The Commission also asks whether it should establish criteria to gauge the acceptability of replacement BAS equipment, and if so, what that criteria should be.²¹ The Commission need not establish such criteria, however, if it requires that an MSS provider's relocation costs be capped at the depreciated (*i.e.*, book) value of the equipment it is replacing, plus a flat two percent of those costs to cover all other transactional costs such as legal, engineering and installation costs.²² In its *Microwave Relocation Cost-Sharing* proceeding, the Commission stated that its goal was to adopt "an efficient and equitable relocation process, which minimizes transaction costs and maximizes benefits for all parties."²³ A requirement capping MSS providers' relocation costs at the depreciated value of the replaced equipment would further that goal.

The Commission has recognized that by 2005, most of the equipment used by most FS incumbents should be fully depreciated or in need of replacement by more

²¹ Third NPRM at ¶ 43.

²² At least one other satellite operator -- Teledesic LLC -- has similarly urged the Commission to limit the relocation costs paid by a new licensee to the book value of the incumbent operator's equipment. *See* Teledesic 18 GHz Comments at 15-19.

²³ Microwave Order, 11 FCC Rcd at 8832.

efficient digital equipment. Specifically, in 1996 the Commission stated that “by the time the sunset date [April 4, 2005] arrives, much of the microwave equipment operating today at 2 GHz is likely to be either fully amortized or in need of replacement.”²⁴

If the incumbents’ equipment is fully or largely depreciated, it would confer upon those incumbents a financial windfall -- a taxable profit -- to require MSS providers to reimburse them for the costs of new equipment. Moreover, it would be unfair to MSS providers to make them pay incumbents for more than the book value of the incumbent operator’s equipment, which is a measure of the benefit obtained from that equipment by the incumbent.²⁵ Thus, MSS providers should not be required to reimburse incumbents for the costs of purchasing new (and probably upgraded) equipment. The cost of replacing/upgrading equipment is a normal cost of doing business. The Commission should not unfairly shift this cost from the incumbents to the MSS providers.

Limiting relocation costs to the depreciated value of the incumbent’s equipment, in addition to being equitable, also helps to ensure that the transition process is efficient by minimizing the transaction costs of the parties. The depreciated value of the incumbent’s equipment is an objective, easily verifiable figure. Thus, the parties will have no reason to haggle over whether the MSS provider has provided “comparable” facilities. This should help avoid the negotiation process altogether and thereby avoid unnecessarily delaying MSS providers’ ability to offer MSS near term.

²⁴ *Id.* at 8860.

²⁵ Depreciation allows the incumbent operator to recover a portion of the cost of new equipment each year through tax benefits.

C. The 50 Percent Reimbursement Proposal Should Not Apply To MSS Providers That Can Share Spectrum With FS Incumbents

In the Third NPRM, the Commission states that where a new licensee in the 2115-2150 MHz band has relocated an incumbent FS link pair, and an MSS provider subsequently begins to offer service in the previously cleared 2165-2200 MHz paired band, the MSS licensee would be obligated to reimburse the new licensee half of the new licensee's costs incurred in relocating the incumbent FS link pair.²⁶ The Commission should reject this proposal insofar as it applies to MSS providers that could have shared with the incumbent primary FS licensee in the 2165-2200 MHz band.

The Commission recognized in the First R&O that sharing between MSS providers and incumbent primary FS operators in the 2165-2200 MHz band may be possible and encouraged such sharing.²⁷ The Commission further stated that so long as MSS providers could share with the primary FS incumbents, the MSS providers would not be required to relocate the incumbents.²⁸ Having encouraged MSS/FS sharing, the Commission should not now punish those MSS providers that can share with incumbent primary FS operators in the 2165-2200 MHz band by requiring them to reimburse half the costs to new licensees in the 2115-2150 MHz band of relocating the paired links of FS incumbents with whom the new licensees could not share. Such a reimbursement requirement is not only contrary to the Commission's stated policy of encouraging

²⁶ Third NPRM at ¶ 51.

²⁷ First R&O, 12 FCC Rcd at 7406-07.

²⁸ *Id.*

FS/MSS sharing, it also constitutes an unwarranted financial benefit to new licensees in the 2115-2150 MHz band. The Commission therefore should revise its proposal to require 50 percent reimbursement to new licensees in the 2115-2150 MHz spectrum only by those MSS providers that cannot share with primary FS incumbents.

III. THE COMMISSION'S PROPOSED 85 MHZ ALLOCATION TO BAS IS FULLY ADEQUATE

In the Third NPRM, the Commission proposes to reallocate 85 MHz of spectrum for BAS at 2025-2110 MHz²⁹ -- a decrease from the 105 MHz allocated to BAS in the First R&O.³⁰ This 85 MHz allocation to BAS is more than adequate and should be adopted. Digital technology, which allows for more efficient use of the spectrum, has advanced to the point where digital ENG equipment is readily available to broadcasters.

ICO has for some time argued that an 85 MHz allocation for BAS was adequate to satisfy current and future BAS needs at 2 GHz. In a petition for partial reconsideration, ICO and other satellite industry members argued that the Commission erred in allocating supplemental spectrum at 2110-2130 MHz (for a total of 105 MHz) to BAS.³¹ ICO and others argued that 2 GHz BAS could be accommodated in 85 MHz of spectrum under one of several possible flexible channelization plans utilizing an analog,

²⁹ Third NPRM at ¶ 32.

³⁰ See First R&O, 12 FCC Rcd at 7402.

³¹ See Coalition Reconsideration Petition at 18-19.

digital or combination digital/analog format.³² ICO and others further argued that to the extent it was necessary for BAS operators in some markets to convert their ENG operations to digital in order to accommodate BAS requirements in 85 MHz, it was in the public interest that they do so.³³

The Commission acknowledges in the Third NPRM that BAS needs may be accommodated in 85 MHz of spectrum even in analog format.³⁴ ICO agrees that it is feasible to transmit analog FM BAS signals in channels as narrow as 12 MHz.

CONCLUSION

For all of the reasons set forth above, ICO urges the Commission (1) to adopt the Proposal for the graduated transition of MSS providers into 2 GHz spectrum, (2) not to apply -- or, in the alternative, not to apply wholesale -- the relocation and cost sharing

³² *Id.* at 19. *See also* Letter from Dr. John Payne, President, NuComm, Inc., to Magalie Roman Salas, Federal Communications Commission (Feb. 11, 1998) (including a report entitled Digital Video Microwave Systems for STL and ENG: Applications & Test Results); Letter from Mobile Satellite Services Ad Hoc Industry Group to Magalie Roman Salas, Federal Communications Commission, at 2 and n.4 (May 22, 1998) (referring to filings by Nucomm, Inc. and COMSAT demonstrating that broadcasters' capacity requirements for seven TV analog channels within the 2 GHz band can be met with 70 MHz of spectrum -- without quality degradation -- by using available off-the-shelf digital technology to operate in no more than 10 MHz digital ENG channels).

³³ Coalition Reconsideration Petition at 19.

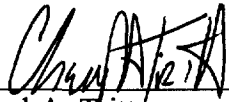
³⁴ Third NPRM at ¶ 32 ("Studies and information that have become available since the adoption of the *First R&O/Further Notice* indicate that it is possible to transmit FM analog BAS signals in channels as narrow as 12 megahertz . . .").

policies adopted in the *Emerging Technologies and Microwave Relocation Cost-Sharing* proceedings to 2 GHz MSS, and (3) to adopt the proposed 85 MHz allocation for BAS at 2025-2110 MHz.

Respectfully submitted,

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February 3, 1999

APPENDIX A

PROPOSED ELEMENTS OF FCC SPECTRUM ACCESS POLICY FOR GLOBAL MSS SYSTEMS AT 2 GHz

1. Establish global model/precedent for market opening for MSS systems.
2. Global MSS should not pay for spectrum access, whether by auctions, fees or direct relocation costs to any party but will provide accommodation such as technical assistance, product development support and operational constraints where required to allow a rapid and inexpensive transition of incumbent users.
3. Allow for negotiated transition and accommodation arrangements (as described in paragraph 2 above) between MSS entrants and terrestrial incumbents.
 - FCC to allow in-band retuning (FS) prior to Sunset date.
4. Given the near term entry of 2 GHz MSS (August 2000), establish the following basic transition rules and policies to apply in the absence of negotiated arrangements.
 - a. 'Sunset' date (1/1/2005) - for all incumbent terrestrial systems, after which MSS systems in 2 GHz bands may commence unconstrained operations.
 - b. Terrestrial Licensing in Uplink (1990-2025 MHz)/Downlink (2165-2200 MHz):
 - Freeze on applications for new licenses and modifications as of issuance of the FNPRM.
 - No new licenses granted upon issuance of the R&O.
 - All renewals granted after issuance of 2 GHz FNPRM conditioned on secondary status as of January 1, 2000.
 - c. Harmful interference:
 - Adopt ITU interference standards and interference assessment methods for protection of primary Fixed Service systems.
 - MSS to avoid harmful interference to authorized primary terrestrial systems prior to 'Sunset' date.
 - In view of the expected improvement in spectrum efficiency in the digital ENG environment, discontinue BAS Channel 1 (Global MSS spectrum) prior to first MSS operational use.
 - BAS continues use of Channel 2 until such time as additional authorized entry of MSS requires additional spectrum take-up but, in any event, no later than 1/1/2005. It is not expected that accommodation will be necessary for BAS Channel 2.
 - d. BAS ENG conversion to digital as soon as possible but, in no event, later than in accordance with FCC fixed DTV conversion schedule (e.g. complete conversion of all commercial television stations by May 1, 2002.)
 - e. Shared (entrant and incumbent) operational constraints during transition period.

CERTIFICATE OF SERVICE

I, James S. Bucholz, do hereby certify that copies of the foregoing **COMMENTS OF ICO SERVICES LIMITED** were delivered, via hand delivery, on this 3rd day of February, 1999, to the following:

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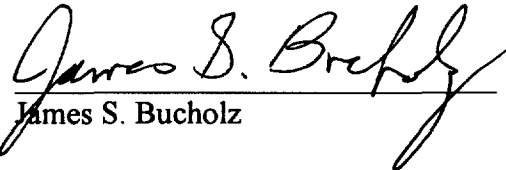
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